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Commissioner

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DEPARTMENT OF HEALTH

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AN EQUAL OPPORTUNITY EMPLOYER

June 15, 1987

MEMORANDUM

TO: Bill L. Warden, R.P.S.
District Sanitarian

FROM: Fred P. Walker, Ph.D.
Environmental Toxicologist

SUBJECT: Excessive Chat Pile Disturbances in the Eagle Picher Area

As per your request, I have reviewed all available information relating to any potential for human exposure to air-borne metals/particulates which might result from the subject circumstances. My evaluation of such a circumstance is that racing events and large gatherings could increase the potential risk for human exposure to air-borne metals/particulates of persons attending such events. It is, therefore, advisable that large organized racing events not be held on chat piles and adjacent areas.

My evalaution and conclusion regarding this hypothetical circumstance relies upon the first premise that chat would be expected to contain some heavy metals at levels significantly higher than would be found in natural soils. This premise is substantiated by the analytical results of soil samples collected from this area on April 28, 1987. While there are no extrapolation techniques for accurately predicting the resulting atmospheric burden of heavy metals from excessive disturbance of chat, the second premise would be that there is a direct relation between the degree of disturbance and the resulting atmospheric burden. This relation would be expected to vary considerably with the physical-chemical properties unique to a particular soil composition and would be effected by point-in-time atmospheric conditions. Nevertheless, the premise holds that the relation is direct. The unknown variables associated with the second premise lead to a qualitative conclusion which has been presented in the first paragraph.

It should be emphasized that these chat piles do not produce an atmospheric burden of heavy metals which would present a public health threat under normal (relatively undisturbed) conditions (An Environmental Health Evaluation of the Tar Creek Area, March, 1983).

FPW:rmp